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THE  
Connecticut Agricultural Experiment Station.

NEW HAVEN, CONN.

BULLETIN No. 95.

JUNE, 1888.

During the last two months Messrs. E. C. Ellwood and C. L. Gold, Agents of this Station, have collected samples of Commercial Fertilizers in all parts of Connecticut. 144 towns and villages have been visited, distributed as follows:

|                     |       |
|---------------------|-------|
| Hartford Co. ....   | 18    |
| Tolland Co. ....    | 11    |
| Windham Co. ....    | 14    |
| New London Co. .... | 26    |
| Middlesex Co. ....  | 20    |
| New Haven Co. ....  | 22    |
| Fairfield Co. ....  | 20    |
| Litchfield Co. .... | 13    |
|                     | <hr/> |
|                     | 144   |

887 samples have been carefully drawn by a method which ensures accurate sampling. This method has already been described on page 91 of the Report of this Station for 1884.

These samples are now being analyzed as required by the Fertilizer Law of Conn., and the results so far as ready for publication are given in this Bulletin.

HOME-MIXED FERTILIZERS.

The formulas by which the mixtures were made are first given, followed by the table of analyses and certain conclusions drawn from it.

**2262.** A mixture made by a number of members of Advance Grange, Simsbury, from chemicals bought of L. Sanderson, New Haven. Sample drawn by J. C. Eddy, Secretary of the Grange.

|      |   |               |
|------|---|---------------|
| 100  | pounds of Nitrate of Soda @ \$50. per ton cost.....                   | \$2.50        |
| 100  | " Sulphate of Ammonia @ \$70. per ton cost..                          | 3.50          |
| 640  | " Tankage (N. Y.) @ \$35. per ton cost -                              | 11.20         |
| 700  | " Dissolved Bone Black @ \$26. per ton cost..                         | 9.10          |
| 360  | " Double Sulphate of Potash and Magnesia @<br>\$30. per ton cost..... | 5.40          |
| 100  | " Muriate of Potash @ \$41.50 per ton cost...                         | 2.07          |
| 2000 | " Mixture cost .....  | \$33.77       |
|      | Add freight to Simsbury.....  | 1.80          |
|      |   | <hr/> \$35.57 |

**2245.** Mixture for Potatoes, made by W. F. Andross, East Hartford.

|     |                               |
|-----|-------------------------------|
| 400 | pounds of Sulphate of Potash. |
| 400 | " Acid Phosphate.             |
| 400 | " Dissolved Bone Black.       |
| 600 | " Baker's Castor Pomace.      |
| 200 | " Dry Ground Fish.            |

This mixture has been used by Mr. Andross for four years and has proved very satisfactory.

**2241.** Mixture for Corn. Made by Dennis Fenn, Milford, from chemicals bought of C. Meyer, Jr., Maspeth, L. I. Sample drawn by Mr. Fenn.

|      |  |         |
|------|--|---------|
| 300  | pounds Sulphate of Ammonia, @ \$71.60 per ton cost | \$10.74 |
| 1000 | " Bone, @ 29.60 " "                                | 14.80   |
| 250  | " Tankage, @ 29.60 " "                             | 3.70    |
| 250  | " Dissolved Bone Black, @ 27.60 " "                | 3.45    |
| 400  | " Muriate of Potash, @ 41.60 " "                   | 8.32    |
| 2200 | " of the mixture, cost                             | \$41.01 |
|      | Or \$37.38 per ton unmixed at Milford.             |         |

**2231.** Mixture for Potatoes. Made by Dennis Fenn from chemicals bought of C. Meyer, Jr. Sample drawn by Mr. Fenn.

|      |  |         |
|------|--|---------|
| 200  | pounds Sulphate of Ammonia, @ \$71.60 per ton cost | \$7.16  |
| 1000 | " Bone, @ 29.60 " "                                | 14.80   |
| 250  | " Tankage, @ 29.60 " "                             | 3.70    |
| 250  | " Dissolved Bone Black, @ 27.60 " "                | 3.45    |
| 275  | " Muriate of Potash, @ 41.60 " "                   | 5.72    |
| 275  | " High grade Sulphate of<br>Potash, @ 61.60 " "    | 8.47    |
| 2250 | " of the mixture, cost,                            | \$43.30 |
|      | Or \$38.49 per ton unmixed at Milford.             |         |

**2239.** Mixture made by G. F. Platt, Milford, from chemicals bought of C. Meyer, Jr. Sample drawn by Station Agent.

|  |       |                      |          |
|--|-------|----------------------|----------|
| 1000 pounds Sulphate of Ammonia,       | @     | \$71.60 per ton cost | \$35.80  |
| 5000 " Tankage,                        | @     | 29.60 " "            | 74.00    |
| 5000 " Dissolved Bone Black,           | @     | 27.60 " "            | 69.00    |
| 1500 " Muriate of Potash,              | @     | 41.60 " "            | 31.20    |
| 1100 " High Grade Sulphate of Potash,  | @     | 61.60 " "            | 33.88    |
| 4800 " Bone,                           | @     | 29.60 " "            | 71.04    |
| <hr/>                                  |       |                      |          |
| 18,400 " of the mixture,               | cost, |                      | \$314.92 |
| Or \$34.22 per ton unmixed at Milford. |       |                      |          |

**2215.** Home Mixture No. 1, made by C. T. Merwin & Son, Milford. From chemicals purchased of C. Meyer, Jr. Sample drawn by Mr. Merwin.

833 pounds Dissolved Bone Black.  
 667 pounds Tankage.  
 334 pounds Muriate of Potash.  
 166 pounds Sulphate of Ammonia.

2000 pounds of the mixture cost \$33.41 unmixed.

**2216.** Home Mixture No. 2, like the above except that 170 pounds of bone were used, replacing the same weight of Tankage. Sample drawn by Mr. Merwin.

**2219.** Home Mixture No. 3, like No. 1 except that the tankage was from another manufacturer. Sample drawn by Mr. Merwin.

**2218.** Home Mixture No. 4. Made by Mr. Merwin.

260 pounds Tankage.  
 710 pounds Dissolved Bone Black.  
 330 pounds Muriate of Potash.  
 100 pounds Sulphate of Ammonia.  
 600 pounds Bone.

2000 pounds of the mixture cost \$32.51.

The chemicals used in the mixtures made in Simsbury and Milford were analyzed and the results printed in Bulletin No. 94. From the composition of the chemicals and the quantity used is calculated what the analysis would have been in each case if the weighings had been exact, the materials and mixture uniform and no loss or gain of moisture had happened in handling. This is entered in the table in the column headed "Calculated." In general the agreement of the calculated and actual composition of the mixtures is fair though there are some wide variations.

The prices given are regular retail quotations. In some cases the actual cost of the mixture was considerably less on account of special rates obtained from the dealers.

Examination of the samples and of the table of analyses shows:

1st. That these home mixtures compare favorably in composition with the best commercial fertilizers. In all cases but one the valuation is higher than the average valuation of factory-made superphosphates or specials analyzed last year.

2d. While the home-mixtures are not as finely ground as the best factory-made fertilizers, they are yet satisfactory in this respect.

3d. In only one case does cost of materials exceed valuation. If we add \$3.00 per ton for cost of mixing the valuation and the cost will still be about the same. The cost of factory-made fertilizers usually exceeds valuation by 20-25 per cent. These analyses justify the statement made in our last report that while it is often cheaper for the purchaser to buy the best commercial mixtures, ammoniated superphosphates and special manures, than to buy the chemicals and mix them, yet the experience of a yearly increasing number of farmers shows that often money may be saved by the seasonable purchase of raw materials and their use in home-mixtures. On page 52 of the last report of the Station will be found a discussion of this subject.

# HOME-MIXED FERTILIZERS, ANALYSES AND VALUATIONS.

| Station No. | Name.                              | Nitrogen.    |             |          |        | Phosphoric Acid. |             |          |           | Potash.    |        | Chlorine.   | Valuation per Ton. | Cost of Chemicals (unmixed.) |
|-------------|------------------------------------|--------------|-------------|----------|--------|------------------|-------------|----------|-----------|------------|--------|-------------|--------------------|------------------------------|
|             |                                    | As Nitrates. | As Ammonia. | Organic. | Total. | Found.           | Calculated. | Soluble. | Reverted. | Insoluble. | Found. | Calculated. |                    |                              |
| 2262        | Advance Grange Mixture             | .71          | 1.04        | 1.73     | 3.48   | 3.7              | 6.15        | 3.85     | 2.24      | 12.24      | 11.4   | 7.6         | \$26.20            | \$35.57                      |
| 2245        | W. F. Andross, Potato Mixture      | ---          | ---         | 2.85     | 2.85   | 2.7              | 5.54        | 1.47     | 1.21      | 8.22       | 7.4    | 4.92        | 26.53              | 28.00                        |
| 2241        | Dennis Fenn, Corn Mixture          | ---          | 2.41        | 3.08     | 5.49   | 5.5              | 1.82        | 6.12     | 5.32      | 13.26      | 12.0   | 8.06        | 40.73              | 37.38                        |
| 2231        | Dennis Fenn, Potato Mixture        | ---          | 1.76        | 2.42     | 4.18   | 4.5              | 1.73        | 6.09     | 4.13      | 11.95      | 11.3   | 13.40       | 41.22              | 38.49                        |
| 2239        | G. F. Platt, Mixture               | ---          | 1.33        | 3.45     | 4.78   | 4.4              | 3.44        | 4.10     | 2.92      | 10.46      | 11.3   | 8.19        | 37.12              | 34.22                        |
| 2215        | G. T. Mervin & Son, Mixture No. 1. | ---          | 1.72        | 3.06     | 4.78   | 4.3              | 5.96        | 2.14     | .88       | 8.98       | 9.0    | 9.06        | 37.04              | 33.41                        |
| 2216        | " " 2.                             | ---          | 17.6        | 2.47     | 4.23   | 4.2              | 5.96        | 3.03     | 1.75      | 10.74      | 10.6   | 8.71        | 36.84              | 33.41                        |
| 2219        | " " 3.                             | ---          | 1.76        | 2.94     | 4.70   | 4.6              | 6.39        | 1.51     | .45       | 8.35       | 9.1    | 8.93        | 36.21              | 33.41                        |
| 2218        | " " 3.                             | ---          | 1.03        | 2.51     | 3.54   | 3.5              | 5.58        | 5.33     | 2.44      | 13.35      | 13.6   | 8.58        | 37.55              | 32.51                        |

## COTTON SEED MEAL, CASTOR POMACE AND TOBACCO STEMS.

**2236.** Castor Pomace. Made by St. Louis Lead and Oil Co. Stock of Olds & Whipple, Hartford.

**2235.** Prime Cotton Seed Meal. Sold by Olds & Whipple, Hartford.

**2244.** Cotton Seed Meal. Sold by F. S. Harmon, Suffield.

**2253.** Dark Cotton Seed Meal. Bought of J. E. Soper & Co., Boston, Mass. Sampled and sent by M. S. Frye, Poquonock.

**2232.** St. Louis Tobacco Stems. Stock bought by Comstock, Ferre & Co., Wethersfield.

**2237.** Tobacco Dust. Stock bought by Comstock, Ferre & Co., of A. D. Cowan & Co., New York.

## ANALYSES.

|                           | <b>2236</b> | <b>2235</b> | <b>2244</b> | <b>2253</b> | <b>2232</b> | <b>2237</b> |
|---------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Nitrogen.....             | 5.78        | 7.23        | 7.42        | 7.20        | 1.92        | 2.35        |
| Phosphoric acid.....      | 1.87        | 2.85        | 3.69        | ----        | .81         | .61         |
| Potash.....               | 1.22        | 1.73        | 2.08        | ----        | 8.71        | 2.59        |
| Cost per ton.....         | \$20.00     | 25.00       | 25.00       | 27.00       | 11.00       | 30.00       |
| Nitrogen costs per pound* | 13.9 cts.   | 13.2 cts.   | 11.9 cts.   |             |             |             |

\* Reckoning phosphoric acid and potash at 7 cents and 5½ cents per pound respectively.

The sample of Tobacco Stems is of average quality. The Tobacco Dust contains 25.7 per cent. of sand and is of less value as a fertilizer than Tobacco Stems, while the price is almost three times as great. It is used by the purchaser rather as an insecticide than as a fertilizer.

The above analyses confirm the statement made in our last Bulletin that at present Cotton Seed Meal is one of the cheapest sources of organic nitrogen, and the same is true of Castor Pomace. While Nitrogen in Blood, Tankage and Fish costs from 16 to 17 cents per pound, in Castor Pomace and Cotton Seed Meal, it costs only 12 to 14 cents. There is no reason to believe that the nitrogen of these vegetable products is less available than that of animal matter. Those particularly who buy raw materials and chemicals in preference to ready-mixed goods may find Cotton Seed Meal and Castor Pomace well worth their attention as sources of organic nitrogen. Occasionally car



lots of Cotton Seed Meal are offered at lower rates because damaged and "off color." If the dark meal is not mouldy or damp its value *as a fertilizer* is probably not less than that of the prime quality meal.

#### GROUND BONE AND BONE AND POTASH.

**2240.** Cooper's Pure Bone Dust. Made by Peter Cooper's Glue Factory 17 Burling Slip, N. Y. Stock of Charles Jennings & Son, Southport.

**2238.** Lister's Ground Bone. Made by Lister Agricultural Chemical Works, Newark, N. J. Stock of A. N. Clark, Milford.

**2234.** Swift-Sure Bone Meal. Made by M. L. Shoemaker & Co., Phila. Stock of F. Ellsworth, Hartford.

**2189.** Fairchild's Formula Bone and Potash. Made by Rogers & Hubbard Co., Middletown.

#### MECHANICAL ANALYSES.

|  | <b>2240</b> | <b>2238</b> | <b>2234</b> | <b>2189<sup>#</sup></b> |
|--|-------------|-------------|-------------|-------------------------|
| Fine, smaller than $\frac{1}{60}$ inch.....        | 36          | 22          | 58          | 37                      |
| Fine, medium smaller than $\frac{1}{25}$ inch .... | 13          | 17          | 26          | 18                      |
| Medium, smaller than $\frac{1}{12}$ inch .....     | 26          | 29          | 15          | 29                      |
| Coarser.....                                       | 25          | 32          | 1           | 16                      |
|  | <hr/> 100   | <hr/> 100   | <hr/> 100   | <hr/> 100               |

#### CHEMICAL ANALYSES AND VALUATIONS.

|                         | <b>2240</b> | <b>2238</b> | <b>2234</b> | <b>2189</b> |
|-------------------------|-------------|-------------|-------------|-------------|
| Nitrogen.....           | 1.68        | 3.44        | 6.23        | 2.90        |
| Phosphoric Acid .....   | 29.96       | 14.28       | 20.23       | 17.74       |
| Potash .....            |             |             |             | 14.72†      |
| Cost per ton.....       | \$26.00     | 28.00       | 40.00       | 40.00       |
| Valuation per ton ..... | \$37.75     | 23.15       | 44.12       | 40.41       |

\*After removing potash salts.

†As Muriate.

**2240** is bone from which nitrogenous matter [glue] has been removed. **2238** contains salt-cake added to the wet bone as a drier and preservative. **2234** is bone from which all grease has been removed by a patent process.

## NITROGENOUS SUPERPHOSPHATES.

Certain explanations may make the following tables of analyses more readily understood. The fourth column of the table describing the samples has the heading "No. of samples taken." The figures in this column show the number of samples drawn by our agents from which a mixture was prepared for analysis. For example, of No. 2302 Lion Brand Fish and Potash, the first superphosphate named in the table, three samples were drawn; one in Gilead, one in Monroe and one in Essex. By mixing equal portions of each of these a sample was prepared for analysis and is believed to more fairly represent the average quality of the brand than would an analysis of any single one of the three samples. The dealers' cash prices show the fluctuations due to presence or absence of competition and differences of freight rates. The manufacturers' statements of fair cash price where given represent about what the average price of the fertilizer should be throughout the State. A circular was sent early in the season to all manufacturers whose fertilizers are sold in Conn. asking for a statement of this kind but replies have been received from only a few firms.

"Valuation" expresses the cash cost at retail in our large markets of the fertilizing material contained in a mixed fertilizer if bought in raw materials and chemicals of good quality.

It does not indicate the fair retail price of the mixed fertilizer which must usually be considerably higher than its valuation.



# NITROGENOUS SUPERPHOSPHATES.

| Station No. | Name or Brand.                             | Manufacturer.  | No. of Samples Taken. | Dealer's Cash Price per ton. | Manufacturer's average cash price per ton. |
|-------------|--|--|-----------------------|------------------------------|--|
| <b>2302</b> | Lion Brand Fish and Potash.                | W. P. Adams, 248 Front St., New York.                | 3                     | \$33.00-38.00                | ---  |
| <b>2303</b> | High Grade Ammoniated Bone Superphosphate. | W. P. Adams, 248 Front St., New York.                | 4                     | 35.00-38.00                  | ---  |
| <b>2295</b> | Baker's Complete Potato Manure.            | H. J. Baker & Bro., 215 Pearl St., New York.         | 4                     | 39.00-42.50                  | ---  |
| <b>2296</b> | A. A. Ammoniated Superphosphate.           | H. J. Baker & Bro., 215 Pearl St., New York.         | 4                     | 34.00-37.50                  | ---  |
| <b>2305</b> | Corn Fertilizer.                           | H. J. Baker & Bro., 215 Pearl St., New York.         | 1                     | 42.50                        | ---  |
| <b>2306</b> | Stockbridge Forage Crop Manure.            | Bowker Fertilizer Co., 43 Chatham St., Boston, Mass. | 2                     | 41.00-43.00                  | ---  |
| <b>2258</b> | Stockbridge Grain Manure.                  | Bowker Fertilizer Co., 43 Chatham St., Boston, Mass. | 8                     | 40.00-45.00                  | ---  |
| <b>2247</b> | Stockbridge Vegetable Manure.              | Bowker Fertilizer Co., 43 Chatham St., Boston, Mass. | 7                     | 40.00-44.00                  | ---  |
| <b>2266</b> | Ammoniated Dissolved Bone.                 | Bowker Fertilizer Co., 43 Chatham St., Boston, Mass. | 6                     | 29.00-35.00                  | ---  |
| <b>2259</b> | Bowker's Hill and Drill Phosphate.         | Bowker Fertilizer Co., 43 Chatham St., Boston, Mass. | 9                     | 35.00-40.00                  | ---  |
| <b>2265</b> | Bowker's Fish and Potash.                  | Bowker Fertilizer Co., 43 Chatham St., Boston, Mass. | 7                     | 30.00-35.00                  | ---  |
| <b>2310</b> | Original Coe's Superphosphate.             | Bradley Fertilizer Co., 27 Kilby St., Boston, Mass.  | 2                     | 32.00-36.00                  | ---  |
| <b>2313</b> | Fish and Potash, Anchor Brand.             | Bradley Fertilizer Co., 27 Kilby St., Boston, Mass.  | 2                     | 31.00-32.00                  | ---  |
| <b>2246</b> | Bradley's Superphosphate.                  | Bradley Fertilizer Co., 27 Kilby St., Boston, Mass.  | 12                    | 35.00-38.00                  | \$35.00                                    |
| <b>2207</b> | Bradley's Superphosphate.                  | Bradley Fertilizer Co., 27 Kilby St., Boston, Mass.  | 1                     | 37.00                        | 35.00                                      |

NITROGENOUS SUPERPHOSPHATES—*Continued.*

| Station No. | Name or Brand.   | Manufacturer.   | No. of Samples Taken. | Dealer's Cash Price Per Ton. | Manufacturer's statement of average cash price per ton. |
|-------------|--|---|-----------------------|------------------------------|---|
| <b>2257</b> | Farmers' New Method Fertilizer.                              | Bradley Fertilizer Co., 27 Kilby St., Boston, Mass.           | 10                    | 32.00-35.00                  | 32.00   |
| <b>2250</b> | Bradley's Potato Manure.                                     | Bradley Fertilizer Co., 27 Kilby St., Boston, Mass.           | 10                    | 35.00-38.00                  | 36.00   |
| <b>2205</b> | Bradley's Complete Manure for Potatoes and Vegetables.       | Bradley Fertilizer Co., 27 Kilby St., Boston, Mass.           | 1                     | 42.00                        | 40.00   |
| <b>2268</b> | Bradley's Complete Manure for Potatoes and Vegetables.       | Bradley Fertilizer Co., 27 Kilby St., Boston, Mass.           | 6                     | 40.00-44.00                  | 40.00   |
| <b>2308</b> | Bradley's Complete Manure for Top Dressing, Grass and Grain. | Bradley Fertilizer Co., 27 Kilby St., Boston, Mass.           | 1                     | 35.00                        | -----   |
| <b>2278</b> | Bay State Fertilizer.  | Clark's Cove Guano Co., New Bedford, Mass.                    | 3                     | 34.00-37.00                  | -----   |
| <b>2271</b> | High Grade Ammoniated Bone Superphosphate.                   | Coe, E. Frank, 16 Burling Slip, New York.                     | 5                     | 34.00-36.00                  | 36.00-37.00   |
| <b>2279</b> | Ammoniated Bone Superphosphate.                              | Coe, Russell, Tremley, N. J.                                  | 3                     | 30.00-32.00                  | -----   |
| <b>2269</b> | Ammoniated Bone Phosphate.                                   | Crocker Fertilizer & Chemical Co., Buffalo, N. Y.             | 6                     | 35.00-37.00                  | 37.00-38.00   |
| <b>2274</b> | Potato, Hop and Tobacco Superphosphate.                      | Crocker Fertilizer & Chemical Co., Buffalo, N. Y.             | 7                     | 35.00-37.00                  | 37.00-38.00   |
| <b>2294</b> | Cumberland Superphosphate.                                   | Cumberland Bone Co., Portland, Me.                            | 3                     | 35.00-38.00                  | 36.00-38.00   |
| <b>2293</b> | Darling's Extra Bone Phosphate.                              | Darling, L. B., Fertilizer Co., Pawtucket, R. I.              | 3                     | 35.00-37.00                  | -----   |
| <b>2272</b> | Darling's Animal Fertilizer.                                 | Darling, L. B., Fertilizer Co., Pawtucket, R. I.              | 7                     | 34.00-37.00                  | 36.00   |
| <b>2276</b> | Fish and Potash.   | Kelsey, E. R., Branford, Conn.                                | 3                     | 20.00-25.00                  | 20.00   |
| <b>2264</b> | Mapes' Potato Manure.  | Mapes' Formula & Peruvian Guano Co., 158 Front St., New York. | 7                     | 43.00-46.00                  | 43.00   |
| <b>2270</b> | Complete Manure, A. Brand.                                   | Mapes' Formula & Peruvian Guano Co., 158 Front St., New York. | 8                     | 36.00-38.00                  | 36.00   |

# NITROGENOUS SUPERPHOSPHATES—Continued.

| Station No. | Name or Brand.   | Manufacturer.  | No. of Samples Taken. | Dealer's Cash Price per ton. | Manufacturer's average cash price per ton. |
|-------------|--|--|-----------------------|------------------------------|--|
| 2275        | Mapes' Grass and Grain Spring Top Dressing.                | Mapes Formula & Peruvian Guano Co., 158 Front St., New York. | 4                     | 41.00-43.00                  | 41.00                                      |
| 2280        | Mapes' Corn Manure.  | Mapes Formula & Peruvian Guano Co., 158 Front St., New York. | 4                     | 41.00-43.60                  | 41.00                                      |
| 2290        | Cecrops Fertilizer.  | Newton & Ludlam, 182 Front St., New York.                    | 2                     | 43.00                        | -----                                      |
| 2291        | Cereal Fertilizer.   | Newton & Ludlam, 182 Front St., New York.                    | 3                     | 33.00-36.00                  | -----                                      |
| 2292        | Chittenden's Fish and Potash.                              | National Fertilizer Co., Bridgeport, Conn.                   | 4                     | 30.00-35.00                  | -----                                      |
| 2248        | Chittenden's Complete Fertilizer.                          | National Fertilizer Co., Bridgeport, Conn.                   | 6                     | 40.00-45.00                  | -----                                      |
| 2261        | Chittenden's Ammoniated Bone Superphosphate.               | National Fertilizer Co., Bridgeport, Conn.                   | 9                     | 28.00-35.00                  | -----                                      |
| 2281        | Bosworth Bone Superphosphate.                              | Chas. Prentice, Putnam, Ct.                                  | 1                     | 34.00                        | -----                                      |
| 2273        | Fish and Potash, Crossed Fishes Brand.                     | Quinnipiac Co., New London, Conn.                            | 6                     | 35.00-38.00                  | 32.00-34.00                                |
| 2187        | Fairchild's Corn Formula.                                  | Rogers & Hubbard Co., Middletown, Conn.                      | 1                     | 44.00                        | 44.00                                      |
| 2186        | Rogers & Hubbard Co's, Complete Potato and Tobacco Manure. | Rogers & Hubbard Co., Middletown, Conn.                      | 1                     | 46.00                        | 46.00                                      |
| 2277        | Fish and Potash.   | Soluble Pacific Guano Co., Boston, Mass.                     | 3                     | 32.00-33.00                  | -----                                      |
| 2260        | Soluble Pacific Guano.                                     | Soluble Pacific Guano Co., Boston, Mass.                     | 4                     | 33.00-38.00                  | -----                                      |
| 2233        | Swift Suro Superphosphate.                                 | M. L. Shoemaker & Co., Philadelphia, Pa.                     | 1                     | 38.00                        | -----                                      |
| 2289        | Standard Superphosphate.                                   | Standard Fertilizer Co., 36 Kilby St., Boston, Mass.         | 1                     | 38.00                        | 35.00                                      |
| 2282        | Americus Brand Potato Fertilizer.                          | Williams & Clark Co., Hanover Square, New York.              | 3                     | 38.00-42.00                  | 36.00                                      |
| 2256        | Americus Brand Ammoniated Bone Superphosphate.             | Williams & Clark Co., Hanover Square, New York.              | 8                     | 32.00-36.00                  | 35.00                                      |
| 2283        | Potato Phosphate.  | Williams & Clark Co., Hanover Square, New York.              | 9                     | 34.00-40.00                  | -----                                      |

## ANALYSES OF NITROGENOUS SUPERPHOSPHATES AND GUANOS SAMPLED BY THE STATION.

| Station No. | Name or Brand.  | Nitrogen.             |                      |                   |                         |                      | Phosphoric Acid. |           |            |              |                    | Potash.    |              | Chlorine. | Cost per Ton. | Valuation per Ton. |         |       |
|-------------|---|-----------------------|----------------------|-------------------|-------------------------|----------------------|------------------|-----------|------------|--------------|--------------------|------------|--------------|-----------|---------------|--------------------|---------|-------|
|             |   | Nitrogen as Nitrates. | Nitrogen as Ammonia. | Nitrogen Organic. | Total Nitro- gen Found. | Nitrogen Guaranteed. | Soluble.         | Reverted. | Insoluble. | Total Found. | Total Guar- anted. | Available. |              |           |               |                    |         |       |
|             |   |                       |                      |                   |                         |                      |                  |           |            |              |                    | Found.     | Guar- anted. |           |               |                    |         |       |
| 2302        | Adams' Lion Brand Fish and Potash                     | ---                   | ---                  | 2.38              | 2.38                    | 2.5                  | 4.06             | 3.58      | .96        | 8.60         | 6.0                | 7.64       | 3.0          | 4.57      | 4.3           | \$35.00            | \$24.18 |       |
| 2303        | Adams' High Grade Ammoniated Bone Superphosphate      | ---                   | .33                  | 1.84              | 2.17                    | 2.5                  | 4.77             | 4.72      | 1.54       | 11.03        | ---                | 9.49       | 10.0         | 4.18      | 3.8           | 1.41               | 36.50   | 26.99 |
| 2295        | Baker's Complete Potato Manure                        | ---                   | 3.01                 | .87               | 3.88                    | 3.7                  | 6.79             | .14       | .04        | 6.97         | 9.                 | 6.93       | 5.8          | 10.17     | 10.0          | 4.28               | 41.50   | 34.27 |
| 2296        | Baker's A. A. Ammoniated Superphosphate               | ---                   | 2.22                 | 1.05              | 3.27                    | 2.5                  | 11.35            | .27       | .02        | 11.64        | ---                | 11.62      | 10.0         | 2.95      | 2.0           | 2.05               | 36.50   | 32.21 |
| 2205        | Baker's Corn Fertilizer                               | ---                   | 3.60                 | .90               | 4.50                    | 5.0                  | 6.36             | .18       | trace      | 6.54         | ---                | 6.54       | 6.0          | 7.94      | 7.0           | 7.81               | 42.50   | 32.76 |
| 2306        | Stockbridge Forge Crop Manure                         | 3.49                  | ---                  | 2.32              | 5.81                    | 5.5                  | 6.84             | 1.18      | 2.00       | 9.66         | 6.0                | 8.02       | ---          | 2.98      | 2.5           | 2.33               | 42.00   | 34.70 |
| 2258        | Stockbridge Grain Manure                              | .39                   | .62                  | 2.55              | 3.56                    | 3.3                  | 7.82             | 3.58      | 1.94       | 13.34        | 7.0                | 11.40      | 6.0          | 3.42      | 4.0           | 3.31               | 42.00   | 33.78 |
| 2247        | Stockbridge Vegetable Manure                          | .69                   | .44                  | 2.35              | 3.48                    | 3.3                  | 7.82             | 2.44      | 2.90       | 13.16        | 9.0                | 10.26      | 7.0          | 3.69      | 5.0           | 3.34               | 42.00   | 32.56 |
| 2266        | Bowker's Ammoniated Bone                              | ---                   | .09                  | 1.98              | 2.07                    | 2.0                  | 8.66             | 2.26      | 2.64       | 13.56        | 11.0               | 10.92      | 10.0         | 1.13      | 2.0           | 1.95               | 31.00   | 26.64 |
| 2259        | Bowker's Hill and Drill Phosphate                     | .36                   | .29                  | 2.01              | 2.66                    | 2.5                  | 8.47             | 2.64      | 2.53       | 13.64        | 12.0               | 11.11      | 10.0         | 1.99      | 2.0           | 1.75               | 36.00   | 29.53 |
| 2265        | Bowker's Fish and Potash                              | ---                   | .09                  | 1.95              | 2.04                    | 2.3                  | 3.56             | 3.21      | 6.79       | 13.56        | 8.0                | 6.77       | ---          | 3.54      | 4.0           | 3.82               | 32.00   | 24.35 |
| 2310        | Bradley's Original Coc's Superphosphate               | ---                   | ---                  | 2.16              | 2.16                    | 2.0                  | 8.71             | 2.03      | 1.18       | 11.92        | 10.0               | 10.74      | 8.0          | 2.52      | 1.0           | 2.64               | 34.00   | 26.97 |
| 2313        | Bradley's Fish and Potash, A Brand                    | ---                   | .42                  | 2.89              | 3.31                    | 2.0                  | 3.02             | 2.65      | 2.26       | 7.93         | 6.0                | 5.67       | ---          | 3.90      | 4.0           | 6.21               | 31.50   | 24.50 |
| 2246        | Bradley's Superphosphate                              | .31                   | ---                  | 2.47              | 2.78                    | 2.3                  | 8.32             | 1.92      | 1.70       | 11.94        | ---                | 10.24      | 9.0          | 2.11      | 1.5           | 2.20               | 35.00   | 28.14 |
| 2267        | Bradley's Superphosphate                              | .33                   | .17                  | 2.24              | 2.74                    | 2.3                  | 8.19             | 2.16      | 1.73       | 12.08        | ---                | 10.35      | 9.0          | 2.06      | 1.5           | 2.05               | ---     | 28.16 |
| 2257        | Farmers' New Method Fertilizer                        | ---                   | .12                  | 2.08              | 2.20                    | 1.7                  | 8.47             | 1.58      | 1.29       | 11.34        | 10.0               | 10.05      | 8.0          | 2.77      | 3.0           | 2.86               | 32.00   | 26.32 |
| 2250        | Bradley's Potato Manure                               | .24                   | .09                  | 2.46              | 2.79                    | 2.5                  | 7.11             | 1.68      | 1.58       | 10.37        | 8.0                | 8.79       | 6.0          | 5.45      | 6.0           | 4.80               | 36.00   | 28.69 |
| 2205        | Bradley's Complete Manure for Potatoes and Vegetables | .70                   | 1.05                 | 2.54              | 4.29                    | 3.7                  | 6.31             | 3.71      | 1.47       | 11.49        | 9.0                | 10.02      | 8.0          | 10.02     | 5.0           | ---                | ---     | 35.67 |

# ANALYSES OF NITROGENOUS SUPERPHOSPHATES AND GUANOS SAMPLED BY THE STATION—Continued.

| Station No. | Name or Brand.   | Nitrogen.             |                      |           |              |                      | Phosphoric Acid. |           |            |              |                   |            | Potash. |             | Cost per Ton. | Valuation per Ton. |
|-------------|--|-----------------------|----------------------|-----------|--------------|----------------------|------------------|-----------|------------|--------------|-------------------|------------|---------|-------------|---------------|--------------------|
|             |  | Nitrogen as Nitrates. | Nitrogen as Ammonia. | Nitrogen. | Total Nitro. | Nitrogen Guaranteed. | Soluble.         | Reverted. | Insoluble. | Total Found. | Total Guaranteed. | Available. | Found.  | Guaranteed. |               |                    |
|             |  |                       |                      |           |              |                      |                  |           |            |              |                   | Found.     | Guar.   | anted.      |               |                    |
| 22668       | Bradley's Complete Manure for Potatoes and Vegetables      | .76                   | .84                  | 2.46      | 4.06         | 3.7                  | 7.25             | 3.41      | 1.15       | 11.81        | 9.0               | 10.66      | 8.0     | 6.0         | 4.60          | 336.00             |
| 22668       | Bradley's Complete Manure for Top Dressing Grass and Grain | 3.87                  | ---                  | .34       | 4.21         | 4.1                  | 7.21             | 1.80      | 1.08       | 10.09        | 7.0               | 9.01       | 6.0     | 5.81        | 5.52          | 33.33              |
| 22778       | Bay State Fertilizer                                       | ---                   | 1.10                 | 1.64      | 2.74         | 2.1                  | 8.58             | 1.72      | 1.96       | 12.26        | 9.5               | 10.30      | 8.0     | 3.00        | 1.32          | 29.61              |
| 22771       | E. F. Oe's High Grade Ammoniated Bone Superphosphate       | ---                   | .60                  | 1.77      | 2.37         | 2.0                  | 8.49             | 1.68      | 1.88       | 12.05        | 11.0              | 10.17      | 9.0     | 2.54        | .31           | 27.86              |
| 22779       | Russell Oe's Ammoniated Bone Superphosphate                | ---                   | 1.32                 | 1.19      | 2.51         | 2.0                  | 6.36             | 2.25      | 1.24       | 9.85         | 10.0              | 8.61       | ---     | 2.80        | 5.02          | 25.22              |
| 22669       | Crocker's Ammoniated Bone Superphosphate                   | ---                   | ---                  | 3.16      | 3.16         | 2.9                  | 7.76             | 2.08      | 1.16       | 11.00        | ---               | 9.84       | 8.0     | 1.62        | 1.26          | 28.04              |
| 22774       | Crocker's Potato, Hop and Tobacco Phosphate                | ---                   | ---                  | 2.41      | 2.41         | 2.0                  | 7.91             | 1.39      | 1.19       | 10.49        | ---               | 9.30       | 8.0     | 4.24        | 3.92          | 27.01              |
| 22914       | Cumbarland Superphosphate                                  | .42                   | .44                  | 1.66      | 2.52         | 2.0                  | 7.03             | 3.97      | 3.40       | 14.40        | 12.0              | 11.00      | ---     | 2.69        | .96           | 30.25              |
| 22993       | Darling's Extra Bone Phosphate                             | .20                   | .48                  | 2.39      | 3.07         | 2.5                  | 3.92             | 3.45      | 3.50       | 10.87        | 10.0              | 7.37       | ---     | 5.03        | 4.50          | 28.01              |
| 22772       | Darling's Animal Fertilizer                                | ---                   | .48                  | 2.96      | 3.44         | 3.3                  | 2.35             | 4.04      | 4.49       | 10.88        | 10.0              | 6.39       | ---     | 5.54        | 4.0           | 28.41              |
| 22776       | Kelsey's Fish and Potash                                   | ---                   | .60                  | 3.73      | 4.33         | 2.5                  | .89              | 1.83      | .36        | 3.08         | 3.0               | 2.72       | ---     | 3.29        | 3.0           | 21.60              |
| 22664       | Mapes' Potato Manure                                       | .78                   | 1.51                 | 1.71      | 4.00         | 3.7                  | 4.82             | 4.09      | 3.91       | 12.82        | 8.0               | 8.91       | ---     | 6.78        | 6.0           | 36.85              |
| 22770       | Mapes' Complete Manure, A Brand                            | .34                   | .77                  | 1.74      | 2.85         | 2.5                  | 5.16             | 4.78      | 3.92       | 13.86        | ---               | 9.94       | 10.0    | 3.20        | 4.40          | 36.03              |
| 22775       | Mapes' Grass and Grain Spring Top Dressing                 | .68                   | 2.11                 | 1.88      | 4.67         | 4.3                  | 5.44             | 3.57      | 3.23       | 12.23        | 7.0               | 9.01       | ---     | 5.93        | 5.0           | 36.80              |
| 22880       | Mapes' Corn Manure   | .74                   | 1.61                 | 1.52      | 3.87         | 3.7                  | 5.88             | 3.58      | 3.46       | 12.92        | 10.0              | 9.46       | ---     | 6.08        | 6.0           | 35.06              |
| 22990       | Gecrops Fertilizer   | .58                   | .22                  | 2.42      | 3.22         | 3.2                  | 7.02             | 3.17      | 2.18       | 13.37        | ---               | 10.19      | 7.0     | 5.48        | 7.0           | 33.18              |



## ANALYSES OF NITROGENOUS SUPERPHOSPHATES AND GUANOS SAMPLED BY THE STATION—Continued.

| Station No. | Name or Brand.                                   | Nitrogen.             |                      |                    |                         | Phosphoric Acid.     |          |           |            |              |                     |            | Potash.       |       | Chlorine. | Cost per Ton. | Valuation per Ton. |         |
|-------------|--|-----------------------|----------------------|--------------------|-------------------------|----------------------|----------|-----------|------------|--------------|---------------------|------------|---------------|-------|-----------|---------------|--------------------|---------|
|             |  | Nitrogen as Nitrates. | Nitrogen as Ammonia. | Nitrogen, Organic. | Total Nitro- gen Found. | Nitrogen Guaranteed. | Soluble. | Reverted. | Insoluble. | Total Found. | Total Guar- anteed. | Available. |               |       |           |               |                    |         |
|             |  |                       |                      |                    |                         |                      |          |           |            |              |                     | Found.     | Guar- anteed. |       |           |               |                    |         |
| 2291        | Cereal Fertilizer                                | ---                   | ---                  | 1.28               | 1.28                    | 1.3                  | 8.41     | 2.37      | 4.60       | 15.38        | 11.0                | 10.78      | 10.0          | 1.02  | 2.1       | 1.43          | \$34.00            | \$24.88 |
| 2292        | Chittenden's Fish and Potash                     | ---                   | ---                  | 3.52               | 3.52                    | 3.2                  | .98      | 4.64      | 5.72       | 11.34        | 6.0                 | 5.62       | 5.43          | 5.0   | 5.49      | 5.49          | 33.00              | 28.20   |
| 2248        | Chittenden's Complete Fertilizer.                | .58                   | ---                  | 3.03               | 3.61                    | 3.7                  | 3.41     | 6.68      | 4.13       | 14.22        | 8.0                 | 10.09      | 6.0           | 5.65  | 6.0       | 5.64          | 43.00              | 34.62   |
| 2261        | Chittenden's Ammoniated Bone Su- perphosphate.   | ---                   | .12                  | 2.14               | 2.26                    | 1.6                  | 5.04     | 5.63      | 3.57       | 14.24        | 9.0                 | 10.67      | 7.0           | 2.59  | 2.0       | 2.79          | 33.00              | 28.33   |
| 2281        | Bosworth's Bone Superphosphate                   | ---                   | 1.34                 | 1.01               | 2.35                    | 2.0                  | 3.57     | 3.65      | 7.41       | 14.63        | ---                 | 7.22       | ---           | 3.72  | 2.0       | 3.58          | 34.00              | 26.81   |
| 2273        | Quinnipiac Fish and Potash, Crossed Fishes Brand | ---                   | .48                  | 3.53               | 4.01                    | 3.3                  | .36      | 5.04      | 4.37       | 9.77         | 5.0                 | 5.40       | 3.0           | 5.13  | 3.0       | 7.10          | ---                | 28.46   |
| 2187        | Fairchild's Formula for Corn and General Crops.  | 4.17                  | ---                  | 1.32               | 5.49                    | 5.5                  | ---      | 7.31      | 4.50       | 11.81        | 12.0                | 7.31       | ---           | 14.95 | 12.0      | 9.82          | 44.00              | 44.55   |
| 2186        | Rogers & Hubbard Co's Potato and Tobacco Manure  | 2.76                  | ---                  | 3.09               | 5.85                    | 5.0                  | ---      | 8.47      | 5.24       | 13.71        | 14.5                | 8.47       | ---           | 11.47 | 10.0      | ---           | 46.00              | 47.48   |
| 2277        | Soluble Pacific Guano Co's Fish and Potash.      | ---                   | ---                  | 2.43               | 2.43                    | 2.5                  | 4.87     | 1.66      | 2.63       | 9.16         | 6.0                 | 6.53       | 4.0           | 4.78  | 4.0       | 7.71          | 32.50              | 23.94   |
| 2260        | Soluble Pacific Guano                            | ---                   | .30                  | 2.29               | 2.59                    | 2.2                  | 6.76     | 2.81      | 2.67       | 12.24        | 10.5                | 9.57       | ---           | 2.72  | 2.0       | 3.11          | 35.00              | 27.56   |
| 2233        | Swift Sure Superphosphate.                       | .90                   | ---                  | 2.67               | 3.57                    | 2.5                  | 7.56     | 3.83      | 2.72       | 14.11        | ---                 | 11.39      | 9.0           | 4.65  | 4.0       | trace         | 38.00              | 36.26   |
| 2289        | Standard Superphosphate                          | ---                   | .48                  | 2.29               | 2.77                    | 2.5                  | 7.38     | 2.92      | 2.29       | 12.19        | 11.0                | 9.90       | 9.0           | 2.18  | 2.0       | 3.12          | ---                | 38.00   |
| 2282        | Americus Brand Potato Fertilizer.                | ---                   | 1.76                 | 1.80               | 3.56                    | 3.0                  | 5.69     | 1.22      | .60        | 7.51         | 7.0                 | 6.91       | ---           | 8.32  | 8.0       | 1.67          | ---                | 32.00   |
| 2256        | Americus Brand Ammoniated Bone Superphosphate    | ---                   | .98                  | 1.83               | 2.81                    | 2.0                  | 9.79     | .96       | .32        | 11.07        | 11.0                | 10.75      | ---           | 3.07  | 2.0       | .29           | 35.00              | 30.04   |
| 2283        | Williams & Clark Co's Potato Phos- phate         | ---                   | 1.10                 | 1.61               | 2.71                    | 2.0                  | 7.00     | .86       | .36        | 8.22         | 8.0                 | 7.86       | ---           | 6.47  | 6.0       | .19           | 36.00              | 28.93   |



## OBSERVANCE OF THE FERTILIZER LAW.

MANUFACTURERS who have paid Analysis Fees as required by the Fertilizer Law, and Fertilizers for which the fees have been thus paid for the year ending May, 1889.

| <i>Firm.</i>   | <i>Brand of Fertilizer.</i>  |
|--|--|
| Adams, Wm. P., 248 Front St., N. Y.  | High Grade Ammoniated Bone Superphosphate.<br>Lion Brand Fish and Potash.<br>Pure Raw Bone.  |
| Apothecaries Hall Co., Waterbury, Conn.<br>H. J. Baker & Co., 215 Pearl St., N. Y. | Victor Phosphate.<br>A. A. Ammoniated Superphosphate.<br>Potato Fertilizer.<br>Corn Fertilizer.<br>Strictly Pure Ground Bone.<br>Castor Pomace.  |
| Bowker Fertilizer Co., 43 Chatham St., Boston, Mass.                               | Stockbridge Grain Manure.<br>" Forage Crop Manure.<br>" Vegetable Manure.<br>Bowker's Hill and Drill Phosphate.<br>" Ammoniated Dissolved Bone.<br>" Fish and Potash.<br>" Pure Dry Fish.  |
| Bradley Fertilizer Co., 27 Kilby St., Boston, Mass.                                | Bradley's Complete Manure for Potatoes and Vegetables.<br>Bradley's Complete Manure for Corn and Grain.<br>Bradley's Complete Manure for Top Dressing Grass and Grain.<br>Bradley's Superphosphate.<br>B. D. Sea Fowl Guano.<br>Original Coe's Superphosphate.<br>Circle Brand Ground Bone and Potash.<br>Bradley's Potato Manure.<br>Farmer's New Method Fertilizer.<br>Pure Fine Ground Bone.<br>Fish and Potash, Anchor Brand.<br>" " " Triangle A Brand. |
| Clark's Cove Guano Co., New Bedford, Mass.   | Bay State Fertilizer.<br>Unicorn Ammoniated Superphosphate.<br>King Philip Alkaline Guano.<br>Great Planet A Fertilizer.<br>" " " B "  |
| Coe, E. Frank, 16 Burling Slip, N. Y.  | Potato Fertilizer.<br>Excelsior Red Brand Fertilizer.<br>Alkaline Bone.<br>High Grade Ammoniated Bone Superphosphate.<br>Ground Bone.<br>Fish and Potash.  |
| Coe, Russell, Tremley, N. J.   | Ammoniated Superphosphate.   |
| Cooper's, Peter, Glue Factory, 17 Burling Slip, N. Y.                              | Peter Cooper's Bone Dust.  |
| Crocker Fertilizer & Chemical Co., Buffalo, N. Y.                                  | Ammoniated Bone Superphosphate.<br>Potato, Hop and Tobacco Phosphate.<br>Queen City Phosphate.   |

*Firm.*

Crocker Fertilizer & Chemical Co., Buffalo, N. Y.  
 Cumberland Bone Co., Portland, Me.  
 L. B. Darling Fertilizer Co., Pawtucket, R. I.  
 Dawley, T. R., Griswold, Conn.  
 Dickenson, D. B., Middle Haddam, Conn.  
 Great Eastern Fertilizer Co., Rutland, Vt.  
 Kelsey, E. R., Branford, Conn.  
 Lister's Agricultural Chemical Works, Newark, N. J.  
 Luce Brothers, Niantic, Conn.  
 Mapes' Formula and Peruvian Guano Co., 158 Front St., N. Y.  
 C. Meyer, Jr., Maspeth, Long Island.  
 Miller, G. W., Middlefield, Conn.  
 Miller, H. S., & Co., Newark, N. J.  
 Mitchell, A., Tremley, N. J.  
 Newton & Ludlam, 182 Front St., N. Y.  
 Orient Guano M'fg Co., 16 and 18 Exchange Place, N. Y.  
 Peck Bros., Northfield, Conn.  
 Prentice, Charles, Putnam, Conn.  
 Preston Fertilizer Co., Greenpoint, L. I.  
 Quininiac Fertilizer Co., New London, Conn.  
 Rogers & Hubbard Co., Middletown, Conn.

*Brand of Fertilizer.*

Pure Ground Bone.  
 Superphosphate No. 2.  
 Cumberland Superphosphate.  
 Seeding Down Fertilizer.  
 Darling's Animal Fertilizer.  
 " Extra Bone Phosphate.  
 " Pure Fine Bone.  
 Baugh's Twenty five Dollar Phosphate  
 Ammoniated Bone Phosphate.  
 Great Eastern General Fertilizer.  
 Vegetable, Vine and Tobacco Fertilizer.  
 Fish and Potash.  
 Lister's Standard Phosphate.  
 Ammoniated Dissolved Bone.  
 Special Potato Manure.  
 Special Corn Manure.  
 Ground Bone.  
 Dry Ground Fish Guano.  
 Potato Manure.  
 Corn Manure.  
 Complete Manure for light soils.  
 " " "A" Brand.  
 " " for general use.  
 Fine Bone Dissolved.  
 Tobacco Manure, Conu. Brand.  
 " " Wrapper Brand.  
 Fruit and Vine Manure.  
 Peruvian Guano.  
 Grass and Grain Spring Top Dressing.  
 Acme Fertilizer No. 1.  
 " " No. 2.  
 " Potato Fertilizer.  
 Flour of Bone Phosphate.  
 Pure Ground Bone.  
 Standard Phosphate.  
 Ammoniated Dissolved Bone.  
 Pure Bone Meal.  
 Standard Superphosphate.  
 Cereal Fertilizer.  
 Cecrops Fertilizer.  
 Fish and Potash.  
 Orient Complete Manure.  
 Pure Ground Bone.  
 Phosphate.  
 Ground Bone.  
 Ammoniated Bone Superphosphate.  
 Potato Fertilizer.  
 Ground Bone.  
 Quininiac Phosphate.  
 Pine Island Phosphate.  
 Potato Manure.  
 Fish and Potash No. 1.  
 " " " No. 2.  
 Pequot Fish and Potash.  
 Dry Ground Fish.  
 Ground Bone.  
 Muriate of Potash.  
 Raw Knuckle Bone Flour.  
 Strictly Pure Fine Bone.  
 Pure Ground AX Bone.

| <i>Firm.</i>   | <i>Brand of Fertilizer.</i>   |
|--|---|
| Rogers & Hubbard Co., Middletown, Conn.                                      | Fairchild's Formula for Corn.<br>" " Bone and Potash.<br>Rogers & Hubbard Co's Complete Potato and Tobacco Manure.  |
| Sanderson, L., 119 Long Wharf, New Haven, Conn.                              | Sanderson's Mixed Formula.<br>Blood, Bone and Meat.<br>Fine Ground Bone.  |
| Sanderson, L., 119 Long Wharf, New Haven, Conn.                              | Dissolved Bone Black.<br>Sulphate of Potash.<br>Muriate of Potash.<br>Sulphate of Ammonia.<br>Nitrate of Soda.  |
| Shoemaker, M. L., & Co., Philadelphia, Pa., by F. Ellsworth, Hartford, Conn. | Swift Sure Superphosphate.<br>" " Bone Meal.  |
| Soluble Pacific Guano Co., Glidden & Curtis, agents, Boston, Mass.           | Soluble Pacific Guano.<br>Fish and Potash.  |
| Spencer, Chas. L., Suffield, Conn.   | Cotton Hull Ashes.  |
| Sperry & Barnes, New Haven, Conn.  | Dried Blood and Meat.   |
| Standard Fertilizer Co., 118½ Milk St., Boston, Mass.                        | Standard Superphosphate.  |
| St. Louis Lead & Oil Co., St. Louis, Mo., by Olds & Whipple, Hartford, Conn. | St. Louis Lead & Oil Co's Castor Pomace.  |
| Thompson & Edwards Fertilizer Co., Union Stock Yards, Chicago, Ill.          | Pure Fine Ground Bone.  |
| Wilkinson & Co., 52 and 54 William St., N. Y.                                | Economical Bone Fertilizer.   |
| Williams & Clark Co., Cotton Exchange Building, Hanover Square, N. Y.        | Americus Pure Bone Meal.<br>Royal Bone Phosphate.<br>Americus Brand Tobacco and Onion Fertilizer.<br>Americus Brand Potato Fertilizer.<br>Americus Ammoniated Bone Superphosphate.<br>Williams & Clark Co's Potato Phosphate. |





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